

Beriberi epidemic in Maranhão State, Brazil

This Editorial addresses the scientific community to report on a beriberi outbreak affecting part of the population in the Tocantins Region in the State of Maranhão, Brazil, with 466 and 543 reported cases and 33 and zero deaths in 2006 and 2007, respectively, predominating among males from 15 to 50 years of age, mainly with the dry beriberi clinical form (data from the Non-Communicable Diseases Division of the Superintendency for Epidemiology and Disease Control, Maranhão State Health Secretariat). During the same period, 30 cases and three deaths were recorded in the neighboring State of Tocantins, according to information provided by its respective State Health Secretariat.

Importantly, the last previously recorded beriberi epidemic in Brazil occurred from 1870 to 1910, during the rubber boom in the Amazon Region, as extensively documented by Josué de Castro in *Geography of Hunger* (1946; English translation, 1952).

After numerous patients were hospitalized in Imperatriz, Maranhão, with edema, paresthesia of the lower and upper limbs, difficulty walking, and death from cardio-respiratory failure, an investigation was launched in May 2006 by the Maranhão State Health Secretariat, with participation by the Health Surveillance Secretariat of the Brazilian Ministry of Health. The initial diagnostic hypotheses were: disease of unknown etiology, pesticide poisoning, alcohol intoxication, and Guillain-Barré syndrome.

News on the disease had great national repercussion, and the investigation changed directions when a physician from the State of Ceará with experience in the Amazon Region telephoned the head of the regional health department in Imperatriz, suggesting the diagnosis of beriberi. The diagnosis was confirmed by a therapeutic test with thiamine administration. The investigation then focused on identifying the determinant factors, and confirmed the prevalence of alcohol abuse and heavy physical labor among the patients. Current studies are concentrating on the population's food consumption, pesticide exposure, and possible contamination of rice with fungal microtoxins.

Among the actions to quell the beriberi outbreak, emergency measures have been taken such as the purchase and supply of thiamine, as well as short and medium term measures like: distribution of basic food baskets; specific training for health workers; epidemiological, food, and nutritional surveillance; installation of Psychosocial Care Centers for Alcohol and Drug Abuse; investigation of rice processing by local mills; food enrichment; intensification in the inspection of marketing and use of pesticides; and systematization of studies under way on beriberi in the region. The Ministry of Health coordinated the creation of an Inter-Ministerial Task Force aimed at planning and implementing these measures, with representatives from: Office of the Chief of Cabinet; Ministry of Social Development and the Fight Against Hunger; Ministry of Agriculture, Livestock, and Supply; Ministry of Agrarian Development; National Council on Food and Nutritional Safety; National Health Surveillance Agency (ANVISA); and the Government of the State of Maranhão (as reported by the Coordinating Division for Food and Nutritional Policy, Ministry of Health, in 2007).

The Task Force allowed greater institutional integration and a more holistic understanding of the problem. Despite difficulties in implementing some measures, the experience has been successful. Some issues in the health sector still need to be defined, like the ideal treatment time, criteria for cure and discharge, thiamine supplementation for patients' family members, and investigation of other risk groups (children and pregnant women).

Another relevant issue is the origin of the epidemic in its ecological, social, and economic dimensions. In recent decades, development in the affected area has focused on extensive deforestation and planting of eucalyptus groves to serve the mining and logging companies operating there, in addition to extensive cattle-raising, to the detriment of production of basic food crops, especially rice, beans, corn, *cassava*, and native foods like Brazil nuts, *babaçu*, and *buriti*. The result has been the disorganization of the local economy, thus aggravating the prevailing social inequality and further jeopardizing the population's access to food and quality of life.

Pedro Israel Cabral de Lira

Departamento de Nutrição, Universidade Federal de Pernambuco, Recife, Brasil.

Centro Colaborador em Alimentação e Nutrição – NE-1, Coordenação-Geral da Política de Alimentação e Nutrição, Recife, Brasil.
lirapic@ufpe.br

Sonia Lucia Lucena Sousa de Andrade

Departamento de Nutrição, Universidade Federal de Pernambuco, Recife, Brasil.

Conselho Nacional de Segurança Alimentar e Nutricional, Recife, Brasil.
sonia.lucena@terra.com.br